

<u>5252408</u>	Oct., 1993	Bridges et al.	428/621
<u>5282994</u>	Feb., 1994	Salyer	252/70
<u>5379596</u>	Jan., 1995	Grayson	62/362
<u>5505046</u>	Apr., 1996	Nelson et al.	62/3
<u>5512345</u>	Apr., 1996	Tsutsumi et al.	428/69
<u>5522216</u>	Jun., 1996	Park et al.	62/3
<u>6482332</u>	Mar., 2000	Malach	252/70

Foreign Patent Documents

2232756	GERMANY
100 28 656 A1	GERMANY
198 58 794 A1	GERMANY
198 36 048 A1	GERMANY
100 48 636 A1	GERMANY

Claims

What is claimed is:

1. A system comprising a rectangular double walled container filled with temperature-regulating fluid to maintain consistent temperatures designed to contain store and label perishable goods, such as blood products, antibodies, cells or biologically produced pharmaceuticals comprising:

two identical halves, which may be securely closed together to create a sealed single module, or, may be stacked on top of each other, with or without the addition of complimentary double walled extension frames, both of which create a flexible, modular system enabling variable inner volumes to suit different product sizes, thus maximising the inner volume for the amount of product being stored;

the geometry of the system allows the product being stored or transported to be completely surrounded by the temperature-regulating fluid and each identical half provides temperature regulating properties and acts as a first end cap or bottom end cap.

a modular system allowing the user to determine the inner volume to suit the amount of product to be transported and the volume of the temperature regulating fluid, which in turn determines the period at which the temperature regulating fluid maintains temperature consistency.

2. The system according to claim 1, is thus characterised as the container is made up of two double walled halves which can be attached together by notches and indentations along the longest sides of it.
3. The system according to claim 1, is thus characterised as the container is made up of two double walled halves and also a double walled complimentary frame, which can be attached together by notches and indentations along the longest sides of it.
4. The system according to claim 1, is thus characterised as the container is filled with paraffin or a carrier immobilised paraffin as a temperature regulator.
5. The system according to claim 4, is thus characterised as the paraffin shows a condition between fluid and solid at temperatures between 2° C and 8° C or 20° C and 24° C.
6. The system according to claim 4, is thus characterised as above 0° C n-hydrocarbons can be used, namely n-paraffins with the formula C_nH_{2n+2} .
7. The system according to claim 1, is thus characterised as the container is filled with a watery saline solution or an ethanol-water mix as a temperature medium which has a consistency between fluid and solid at temperatures between -20° C and -40° C.
8. The system according to claim 1, is thus characterised as the container is filled with a buthanol water mix as a temperature medium which has a consistency between fluid and solid at temperatures between 20°C and 24°C.
9. The system according to claim 1, is thus characterised as the double wall is transparent, specifically made from a transparent plastic.
10. The system according to claim 1, is thus characterised as the double wall is made from an impervious plastic such as Kevlar, or from metals such as aluminium or iron.
11. The system according to claim 1, is thus characterised as the double wall has an outside locking mechanism.
12. The system according to claim 2, is thus characterised as the container consists of two double walled halves which can be sealed along the longer sides with a clip.
13. The system according to claim 3, is thus characterised as the container consists of two double walled halves and a complementary double walled frame which can be sealed along the longer sides with a clip.
14. The system according to claim 11 or 12, is thus characterised as the container is fitted with an eyelet which allows for sealing.

15. The system according to claim 2, is thus characterised as the container made from two double walled halves that are fitted with tongues and grooves along the longer sides.
16. The system according to claim 2, is thus characterised as the container made from two double walled halves and a complementary double walled frame that are fitted with tongues and grooves along the longer sides.
17. The system according to claim 2 or 3, is thus characterised as the container made from two double walled halves and/or a complementary double walled frame are attached with a moveable hinge.
18. The system according to claim 2 or 3, is thus characterised as the container has a carrying strap.
19. The system according to claim 2 or 3, is thus characterised as the container made from two or three complementary double walled halves which enclose a space intended to store products is fitted with a thermometer, specifically a self adhesive strip thermometer or a liquid crystal thermometer and/or an electronically readable temperature guage.